

[SHORT NOTE]

NEW DISTRIBUTIONAL RECORDS OF THE EXTINCT NEW ZEALAND DUCK *MALACORHYNCHUS SCARLETTI* (ANATIDAE)

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Abstract. A left humerus from dunes at Te Werahi Beach, Cape Maria Van Diemen, Northland, and several bones from Lake Poukawa, Hawke's Bay, are identified as belonging to the extinct New Zealand pink-eared duck *Malacorhynchus scarletti*, previously known in the North Island only from the Hastings area. An additional *Malacorhynchus* bone is reported from Marfells Beach. The species is also confirmed as a former inhabitant of the Chatham Islands. The minimum number of individuals in the fossil record now stands at 19, from seven Holocene fossil sites.

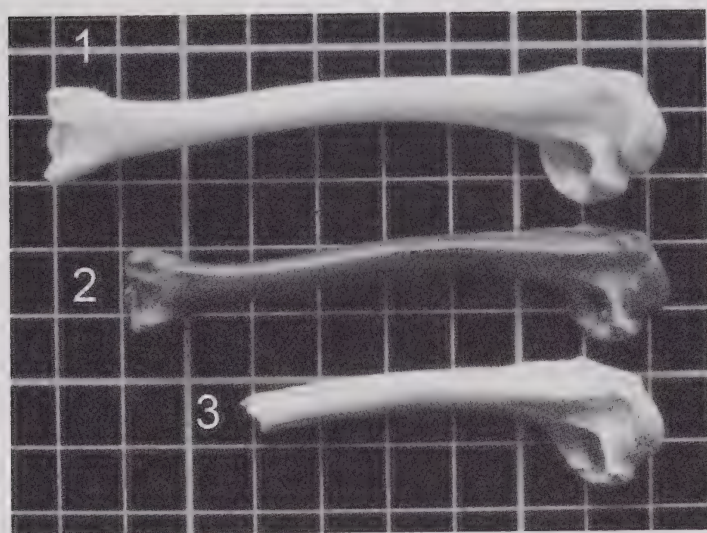
KEYWORDS: Holocene fossils; *Malacorhynchus*; distribution; Northland; Hawke's Bay; Marlborough; Chatham Island.

INTRODUCTION

The extinct New Zealand pink-eared duck *Malacorhynchus scarletti* Olson, 1977, was previously known from bones found at three South Island sites—Marfells Beach (Marlborough), Pyramid Valley swamp (north Canterbury) and Ngapara (Otago)—and a swamp near Hastings, North Island (Worthy 1995, 1998a, 1998b). The holotype was a fragment of premaxilla from Pyramid Valley (Olson 1977). The minimum numbers of individuals represented by these bones are two at Marfells Beach (Worthy 1998a), four at Pyramid Valley (Worthy 1995), one at Ngapara (Worthy 1998b), and one by a single bone from Hastings, making a total of eight individuals.

Given the rarity of this species in the New Zealand fossil record, the purpose of this note is to report additional Holocene fossil bones in New Zealand museums that THW recently identified as belonging to *M. scarletti*, and that represent significant extensions to the known range of this duck. The following institutional acronyms are used: AIM (Auckland Museum, Auckland), CM (Canterbury Museum, Christchurch), and MNZ (Museum of New Zealand Te Papa Tongarewa, Wellington).

The left humerus of *M. scarletti* from near Hastings, which was discussed by Worthy (1995), had been inadvertently registered into the Auckland University Geology Department collection as AU9534, but has now been returned to AIM and registered as B8830 (Fig. 2). It was with a collection of moa bones from a swamp near Hastings purchased by the museum in 1933 from Mr D. Clark.



Figs 1–3. Left humeri of New Zealand ducks.

1. *Anas superciliosa*, AIM B9190, Otorohanga (contemporary specimen).
 2. *Malacorhynchus scarletti*, B8830, Hastings (fossil).
 3. *M. scarletti*, B9400, Te Werahi Beach (fossil).
 Side of background square = 10 mm.
 Photo: B. Gill.

NEW RECORDS

NORTHLAND

A left humerus of *M. scarletti* (AIM B9400; Fig. 3) was collected by F.J. Brook in 1995 in dunes behind Te Werahi Beach (173° 40'E, 34° 27'S), Cape Maria Van Diemen, Northland. It preserves only the proximal end and shaft. B9400 is very close in size to B8830 from Hastings (Fig. 2). The proximal widths are 18.1 mm and 17.4 mm respectively. The proximal end clearly has a concave external surface to the deltoid crest, a raised external tuberosity, a compressed and well-developed capital shaft ridge, and a closed bicipital foramen, which are all diagnostic of *M. scarletti*.

B9400 is from Fossil Record File Number M02/f86 (grid reference: NZMS 260, M02/811484), a Holocene fossil site close to the present course of the Te Werahi Stream and to the Te Werahi wetland, a large area of swamp (Brook 1999). Fossil landsnail shells from the site have been dated with a radiocarbon age range of 2014–1832 years BP. During this period the site where the bone was found would have been swamp, or close to swamp, with adjacent forest (Brook 1999).

HAWKE'S BAY

The avifauna from Lake Poukawa (176° 44'E, 39° 46'S), Hawke's Bay, is derived from several sites, the fauna of only one of which has been reported previously (Horn 1983). *Malacorhynchus* bones were not recognised in that study and were confused with those of *Anas superciliosa* when the entire Poukawa collection was catalogued into the MNZ collection. Several bones have now been re-identified as *M. scarletti* (Table 1). Only part of the large collection of *Anas superciliosa* bones from Lake Poukawa has been reassessed by THW, so further specimens of *Malacorhynchus* are expected to be found. Meanwhile, these records reveal Lake Poukawa to have been a significant locality for this species.

MARLBOROUGH

A *Malacorhynchus* bone identified from dunes at Marfells Beach (174° 12'E, 41° 43'S; Table 1) is additional to those previously reported (Worthy 1995, 1998a). It increases the minimum number of individuals from the site to three.

CHATHAM ISLAND

Two right humeri of *M. scarletti* (CM Av27727a & b), labelled from Long Beach, Chatham Island, were considered by Worthy (1995) to have probably been incorrectly referred to this locality. However, two bones from Chatham Island (Table 1), collected in dune localities by P.R. Millener, confirm the presence of this duck on Chatham Island. The CM specimens are therefore now accepted as having originated from Chatham Island.

DISCUSSION

On current evidence, *Malacorhynchus scarletti* appears to be a rare species in the New Zealand fossil record. However, its incidence is bound to increase as more fossil bones are collected and more attention is paid to the correct identification of duck bones. Cranial bones and humeri of *M. scarletti* are easily distinguished from these elements in the similar-sized *Anas superciliosa*, but most other elements are either not yet described in the former species or not easily distinguished.

The new records of *M. scarletti* reported here increase the number of fossil sites from which it is known to seven: the Chatham Islands plus three North Island and three South Island sites. The minimum number of individuals represented is increased to 19, as follows: Chatham Island (4), Te Werahi (1), Hastings (1), Poukawa (5), Marfells Beach (3), Pyramid Valley (4) and Ngapara (1).

Table 1. New records of *Malacorhynchus scarletti* from the AIM and MNZ collections.

Reg. Number	Locality	Specimen
AIM B9400	Te Werahi Beach	L humerus
MNZ S1276	Poukawa, site XII	L humerus
MNZ S1823	Poukawa, site XII	R humerus
MNZ S2379	Poukawa, site XII	R humerus
MNZ S17115	Poukawa, site I.47	R humerus (juv.)
MNZ S17299	Poukawa, site I.93	L ulna
MNZ S22165	Poukawa, ?site XII	L ulna
MNZ S22402	Poukawa, site II	R humerus
MNZ S36338	Lake Grassmere (= Marfells Beach)	R humerus
MNZ S26771	Long Beach, grid ref. 456646, Chatham Island	L humerus
MNZ S33043	Long Beach, grid ref. 445669, Chatham Island	R humerus

All fossil sites for *M. scarletti* are close to extant or former wetlands. Most bones have come from former lacustrine environments (Lake Poukawa, Pyramid Valley, and Marfells Beach) as expected for an obligate filter-feeding duck. This habitat is rarely represented in fossil sites, which in turn probably largely explains the scarcity of the duck in the fossil record. The species was not recorded from any of the faunas from the important archaeological sites close to estuarine habitats in Otago (Warrington, Pleasant River, Shag Mouth, Papatowai, Pounaweia) whose faunas were reviewed by Worthy (1999), yet other taxa that went extinct immediately after human contact on the mainland were present, e.g. *Chenonetta finschi*, *Mergus australis*. These observations suggest the species was absent from estuaries.

There is nothing about the osteology of *Malacorhynchus scarletti* to suggest it was a poor flier, so it is not unexpected that it would reach Chatham Island, as *Anas platyrhynchos* regularly does. The availability of extensive lacustrine habitats suitable for filter-feeders means that Chatham Island probably had a resident population of *M. scarletti*.

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